user manual

REALIZE YOUR UBIQUITOUS DREAM

Enjoy the ubiquitous mobile broadband service in your daily life

SEOWON INTECH

Contents

Introduction to the Product 03
- Functional Features 03
- LED Information 03
- Rear Side Information 04

Configuration 05
- Network Configuration 05
- Package Contents 06
- PC Configuration (Windows XP) 07
- How to check your IP address 10

CPE Built-in Web Server Access 11

CPE Setup on the web page 12
- WiMAX Status 12
- LAN (LAN Configuration) 14
- LAN (MAC Address) 15
- LAN (Status) 15
- Application (Firewall) 16
- Application (DMZ & Port Forwarding) 17
- Application (VPN pass through) 19
- Admin (Version) 20
- Admin (Password) 20
- Admin (Firmware Upgrade) 21
- Admin (Reboot/Default Setting) 22

Trouble Shooting 23

Operating Information 25

Product Warranty and Customer Support 26

Warranty Information 27

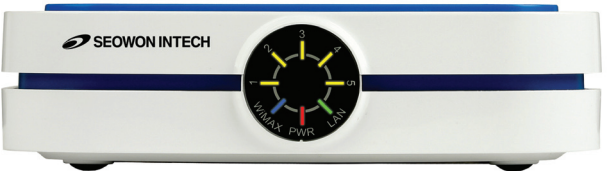
Introduction to the Product

The SWC-3x00 receives external WiMAX signals to form an in-building infrastructure on a WiMAX network, and is covered by an Ethernet network internally. The product serves as a relay as well as an internet router.
However, the purpose of the product is mostly to supply signals to users, with the emphasis being its relay rather than its modem functions.
It is also a wired and wireless internet router that enables several systems to share a single internet address supplied by a high-speed internet service provider.

Functional Features

Function	Features
IEEE802.16e WiMAX Support	Wave2 = DL : 20Mbps / UL : 6Mbps
IEEE802.3u Ethernet Support	10/100Mbps wired LAN connectable
LAN Port	1 Port 10/100Mbps Ethernet Switch built-in
Cable Auto Sense	Straight (Direct) or Cross Cable auto sensing
NAT function	Supports up to 253 wired and wireless connections and internet router
Firewall function	Manages basic firewall and IP/Port/based access

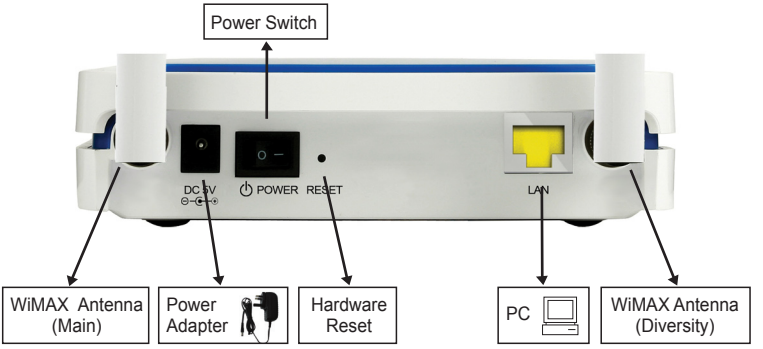
LED Information



LED Indicator	Function
PWR	Power Supply status (On at Power ON)
LAN	ON when connected to PC, Flashing during communication
RSSI1~RSSI5	Represents WiMAX received signal strength indication (RSSI), on when router mode is selected.
WiMAX	ON when connected to PC, Flashing during communication

Product Introduction

Rear Side Information



Item	Details
External Antenna	Antenna1 : WiMAX Diversity Antenna2 : WiMAX Main Antenna Classification - M23 : 2.3G - M25 : 2.5G - M35 : 3.5G
POWER	Power On/Off Switch (Switch between On/Off by pressing right or left)
DC 5V	Power Adapter connection (DC 5V ⎓ 2.0A)
LAN	PC or Hub connection
RESET	Restore the CPE Factory Default

Note If you lose the LOGIN password for the router, or the IP address after changing it, use the Reset switch to restore the original Factory Default settings.

Configuration

Network Configuration

To verify the normal operation of the router, check the following LEDs after connecting the router, modem, and PC with a LAN cable, as follows:

LED	Normal Operation	Actions to take if not illuminated
PWR	ON when connecting adapter	Check for adapter power failure
LAN	ON when cable is connected normally	Check cable connection and PC power supply
WiMAX RSSI	Represents WiMAX received signal strength indication (RSSI), ON when in router mode	Check that router mode is selected

If one or more LED lights is not in “normal operation”, take the actions specified in the table.
Install a router after connecting to the network.
If normal connection between router and PC is checked, you have to set up the PC and router.
PC setup is to control network configuration for Windows 98, Windows 2000, or Windows XP to use the Internet while the PC is connected to a router.
Router setup is to connect a router to the Internet.
Please refer to the "CPE setup on the web page" chapter.

Configuration

Package Contents

Main Unit

Antenna X 2

User Manual

UTP Cable

Adapter

Configuration

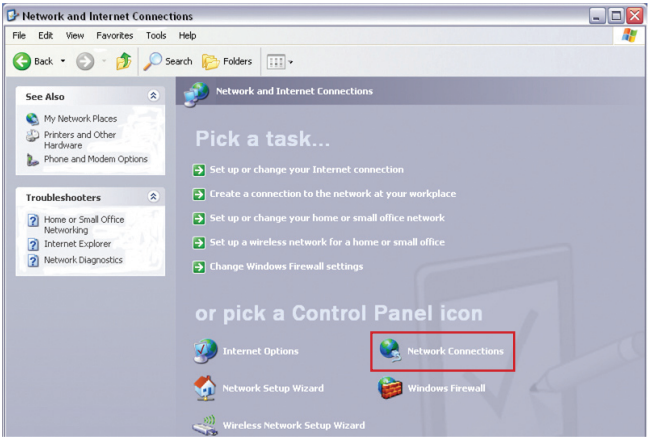
PC Configuration (Windows XP)

This procedure is used to restore Windows XP's TCP/IP setup to the default values. If Windows has just been installed for the first time on the PC, no changes should be required, but you should check to confirm that all values are normal according to the following.

After completing the TCP/IP setup of the PC, connect PC and CPE with a LAN cable and turn CPE on before Windows starts up to determine whether an IP address is obtained from CPE automatically.

- Click the Windows Start button, and select Settings >> Control Panel from the menu.
- Double-click the "Network Connection" icon in the Control Panel.

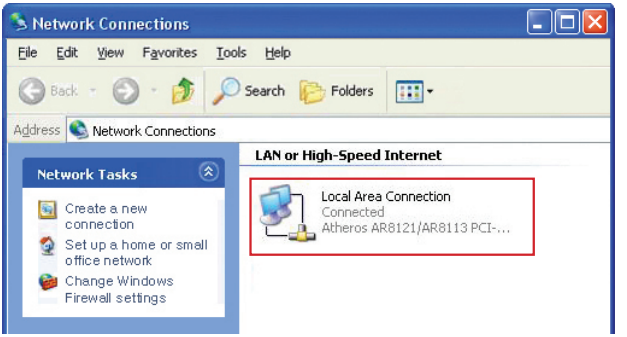
Double-click "Network and Internet Connections"


Network and Internet Connections
File Edit View Favorites Tools Help
Back Search Folders
See Also
My Network Places
Printers and Other Hardware
Phone and Modem Options
Troubleshooters
Home or Small Office Networking
Internet Explorer
Network Diagnostics
Network and Internet Connections
Pick a task...
Set up or change your Internet connection
Create a connection to the network at your workplace
Set up or change your home or small office network
Set up a wireless network for a home or small office
Change Windows Firewall settings
or pick a Control Panel icon
Internet Options
Network Connections
Network Setup Wizard
Windows Firewall
Wireless Network Setup Wizard

Double-click "Network Connections"

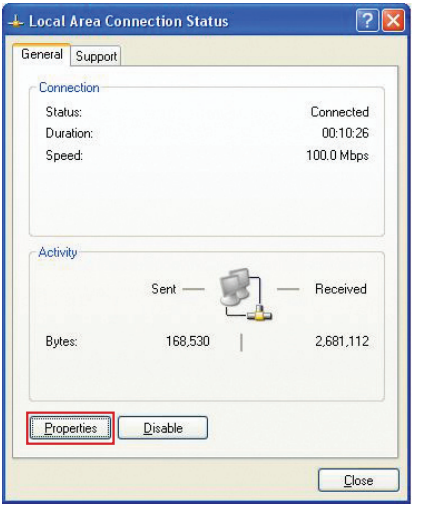
Configuration

- Double-click the Local Area Connection from the Network Connection list to select it.



Double-click “Local Area Connection”

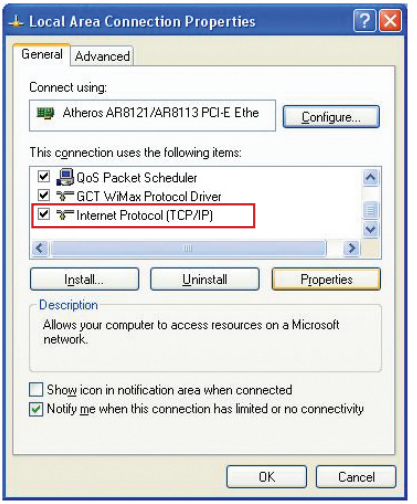
- Click “Properties” in the Local Area Connection Status window.



Click “Properties”

Configuration

- Double-click Internet Protocol (TCP/IP) to open its Properties window, and then select “Obtain an IP address automatically” and “Obtain a DNS Server address automatically”.



Double-click TCP/IP

Internet Protocol (TCP/IP) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

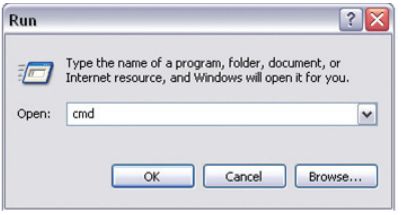
Select “Obtain an IP address automatically” and “Obtain a DNS Server address automatically” and click OK

- After completing setup, click OK and close all of the Local Area Connection Properties windows.
- When TCP/IP setup is completed, an IP address is automatically assigned by CPE. For automatic assignment, the PC and the CPE should be connected with a LAN cable. If they are not connected with a cable, connect them with a LAN cable and restart the PC.
- You can check the automatic IP address assignment by using the ipconfig command from the Command Prompt.

Configuration

How to check your IP address

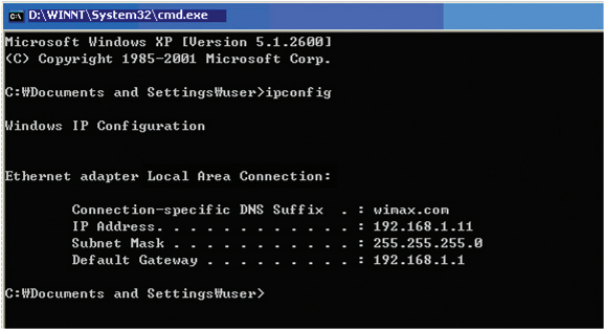
- To run the Command Prompt, click the Start button at the lower left corner of the Windows screen. Click Run, then enter “cmd” in the Open box, and click OK.



Run cmd

- When the Command Prompt window opens, enter the “ipconfig” command to verify the IP address, Subnet mask, and Gateway, which are automatically assigned to PC.

Note All PCs connected to CPE will receive their own assigned IP address.

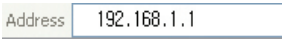

D:\WINNT\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\user>ipconfig
Windows IP Configuration
Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . : wimax.com
IP Address. . . . . : 192.168.1.11
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.1.1
C:\Documents and Settings\user>

Verify IP address

Note If an IP address is not assigned, check the following, and then restart the PC and check whether an IP address is assigned.
- LAN cable connection between PC and CPE
- Check TCP/IP setup details

CPE Built-in Web Server Access

- The WEB GUI is used to manage a CPE and view its current status.
- You can access the web server that is built into the CPE, even when not connected to the Internet.
- To access the web server, open Internet Explorer or your Browser and type “192.168.1.1”, which is the IP address of CPE, in the address bar, as shown below :



Note If the PC is connected to the CPE but is not connected to the Internet, entering the IP address of 192.168.1.1 in the address box will connect the PC to the CPE web server. This function may not operate in some environments.

- Upon accessing the CPE, the following Login screen will be displayed.
- The default user ID and password are admin, which you can change on the web server.

ID / Password = admin / admin

Note If you have no input activity for 1 hour, your web connection is terminated.
In this Case, please login again through the login page.

CPE Setup on the web page

WiMAX Status

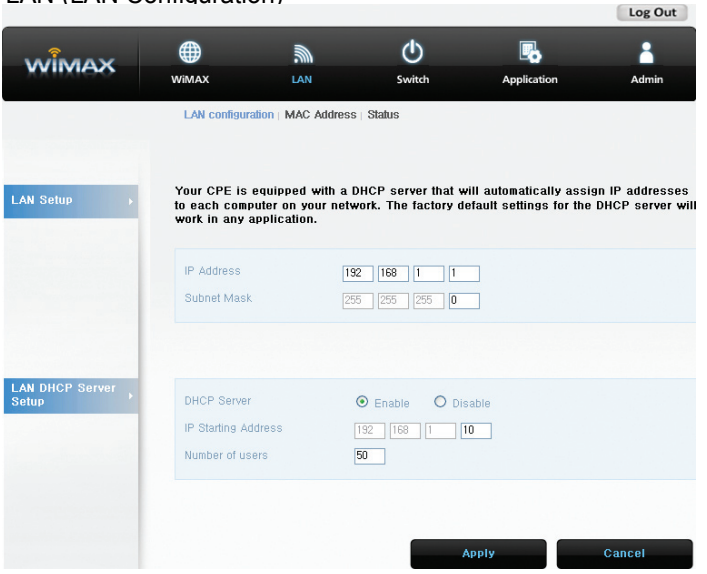
- Select “WiMAX” → “Status” from the menu.
- You can see the configuration information and the current status of WiMAX.
- Please refer to the following table for detailed WiMAX Information.

CPE Setup on the web page

Wimax Information	
MAC Address	MAC Address of Wimax interface
Wimax Status	STANDBY : Wimax signal detected, but no wimax connection established yet AWAKE : Wimax connection established OUTOFZONE : No Wimax signal detected
Base Station ID	48-bit long field identifying the BaseStation
CINR & RSSI Info	CINR: Carrier to Interface and Noise Ratio RSSI: Received Signal Strength Indicator
Power Control Mode	Current transmitter power control mode
Tx Power Info	Tx power / Tx power maximum value
Frequency	Wimax channel frequency

CPE Setup on the web page

LAN (LAN Configuration)

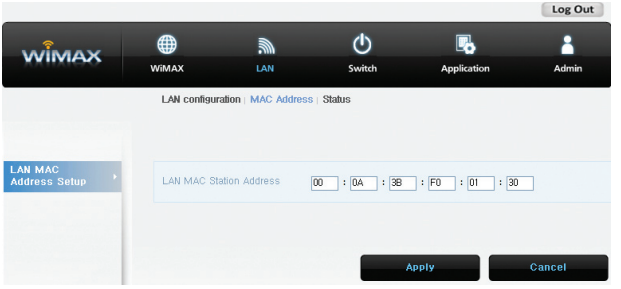


- Select “LAN” → “LAN Configuration” menu.
- Configure LAN IP address
  - LAN IP address is used in the LAN that the CPE manages.
  - Configure LAN IP address in “IP Address/Subnet Mask” text boxes.
  - Initial Value is “192.168.1.1/255.255.255.0” and only the last byte in “Subnet Mask” box can be modified.
- Configure DHCP server
  - Enable DHCP server to lease IP address to the computer connecting to CPE with wired LAN.
  - Set Maximum lease time (in seconds), IP Starting address, Number of users and WINS server address.
- Finish setup by clicking the “Apply” button. A pop-up window informing you of the result will appear.

CPE Setup on the web page

LAN (MAC address)

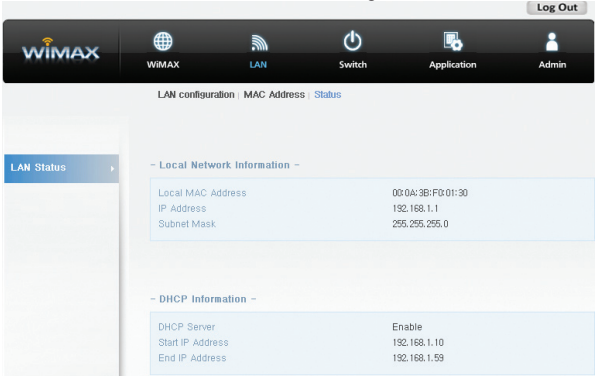
- MAC address is a unique identifier assigned to most network adapters or network interface cards by the manufacturer for identification.



- Select “LAN” → “MAC address” from the menu.
- The current MAC address of the LAN is shown.
- Modify the MAC address if necessary.
- Finish setup by clicking the “Save” button. A pop-up window informing you of the result will appear.

LAN (status)

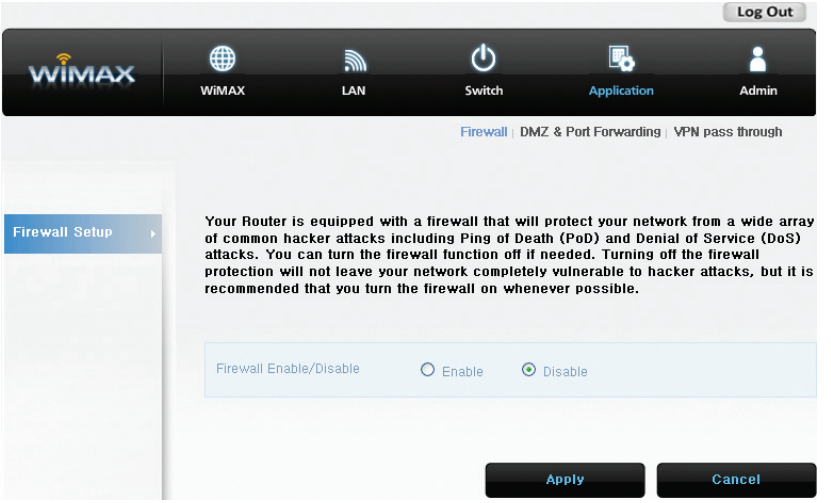
- Select “LAN” → "Status" from the menu.
- You can see the details of the LAN configuration.



CPE Setup on the web page

Application (Firewall)

Firewall enables you to set the CPE so that it is not affected by external hacking attempts, including Ping Flooding or DoS. Internal LAN PCs are usually isolated/protected from external Internet attacks even when a firewall is not used, but it is still preferable to set the firewall to ON as much as possible. By default, the firewall is set to ON.


Log Out
WiMAX
WiMAX
LAN
Switch
Application
Admin
Firewall | DMZ & Port Forwarding | VPN pass through
Firewall Setup
Your Router is equipped with a firewall that will protect your network from a wide array of common hacker attacks including Ping of Death (PoD) and Denial of Service (DoS) attacks. You can turn the firewall function off if needed. Turning off the firewall protection will not leave your network completely vulnerable to hacker attacks, but it is recommended that you turn the firewall on whenever possible.
Firewall Enable/Disable
Enable
Disable
Apply
Cancel

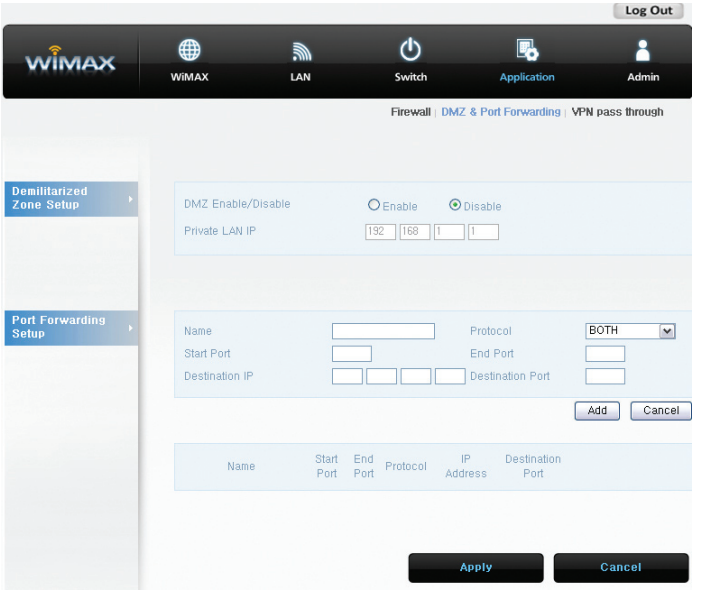
- Select “Application” → “Firewall” from the menu.
- If you want to use the Firewall function, check the “Enable” checkbox.
- Finish setup by clicking the “Apply” button. A pop-up window informing you of the result will appear.

CPE Setup on the web page

Application (DMZ & Port Forwarding)

The DMZ feature allows you to specify one computer on your network to be placed outside of the NAT firewall. This may be necessary if the NAT feature is causing problems with an application, such as a game or video conferencing application. Use this feature on a temporary basis, as the computer in the DMZ is not protected from attacks by hackers.

The Port Forwarding function is used to forward incoming packets of specific TCP/IP port from outside to the assigned PC. This function is useful if you have to use VoIP or P2P applications, or have to operate HTTP or FTP servers from a PC in the internal LAN.



CPE Setup on the web page

- Select “Advance” → “DMZ & Port Forwarding“ from the menu.
- Configure DMZ (Demilitarized Zone)
  - Select whether or not to enable the DMZ function.
  - Set the IP address to have all ports opened in “Private LAN IP” content.
  - Finish setup by clicking the “Apply” button. A window informing you of the result will appear.

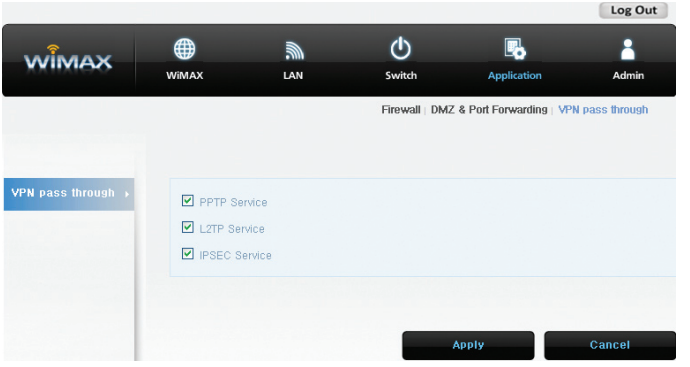
- Configure Port Forwarding
  - The port forwarding function can be configured when DMZ is disabled.
  - Enter the information for port forwarding.
  - To add port forwarding list, click the “Add” button.
  - Added port forwarding is shown.
  - Click “Apply” button to apply port forwarding list.
  - To modify/delete the existing Port Forwarding list, use the “Edit/Delete” checkbox.

- Changed configuration is applied immediately

CPE Setup on the web page

Application (VPN pass through)

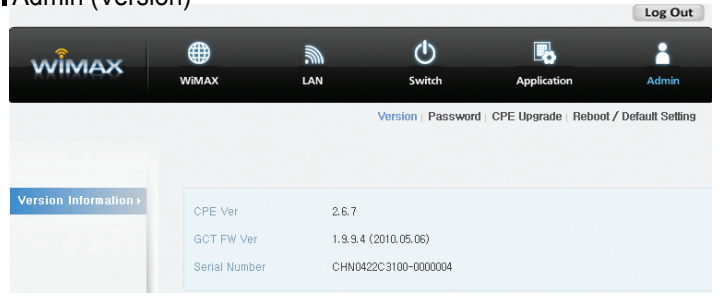
The VPN (Virtual Private Network) function is used to obtain access to a security network installed in a company or an organization via the Internet network.
If there is a VPN Server outside, and one has access to the VPN Server via the Internet network by using CPE, this screen shows how to activate the security protocol supported by the appropriate VPN Server.



- Select “Advance” → “VPN pass through” from the menu.
- SWC-3100 supports 3 types of service: PPTP, L2TP and IPSEC.
- Select the type(s) of VPN pass-through to use with the checkboxes.
- Finish setup by clicking the “Apply” button. A window informing you of the result will appear.
- Changed configuration is applied immediately.

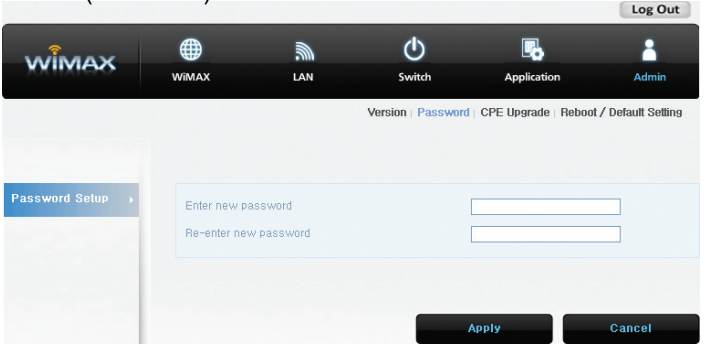
CPE Setup on the web page

Admin (Version)



- Select “Admin” → “Version” from the menu.
- You can see the versions of the SWC-3x00 firmware and the Wimax firmware in use.

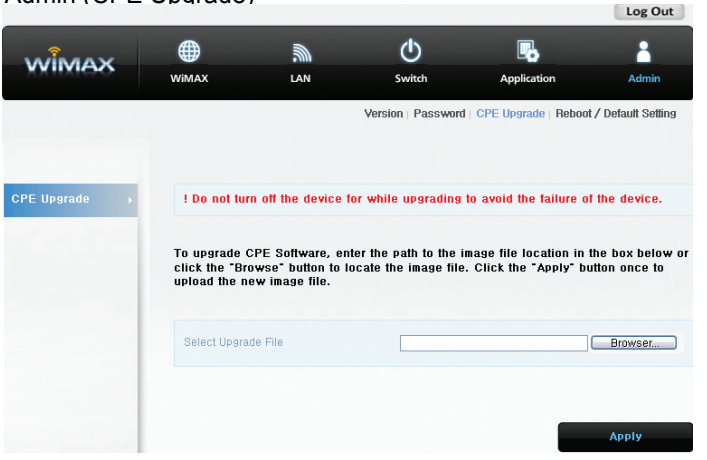
Admin (Password)



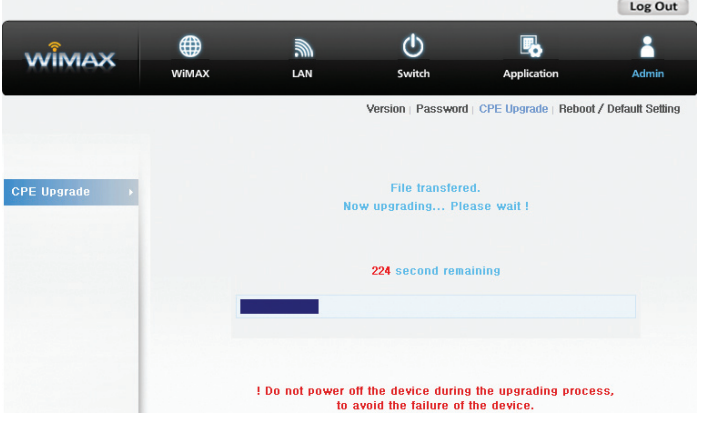
- Select “Admin” → “Password” from the menu.
- Set the Password to be given to the Administrator who manages the CPE.
- Enter the new password, and re-type it to confirm.
- Finish setup by clicking the “Apply” button. A pop-up window informing you of the result will appear.

CPE Setup on the web page

Admin (CPE Upgrade)


Log Out
WiMAX
WiMAX
LAN
Switch
Application
Admin
Version | Password | CPE Upgrade | Reboot / Default Setting
CPE Upgrade
! Do not turn off the device for while upgrading to avoid the failure of the device.
To upgrade CPE Software, enter the path to the image file location in the box below or click the "Browse" button to locate the image file. Click the "Apply" button once to upload the new image file.
Select Upgrade File
Browser...
Apply

- Select “Admin” → “CPE Upgrade” from the menu.
- Input the CPE firmware path directly, or search for the firmware file by clicking the “Browser” button.
- To start the firmware update, click “Upgrade”.

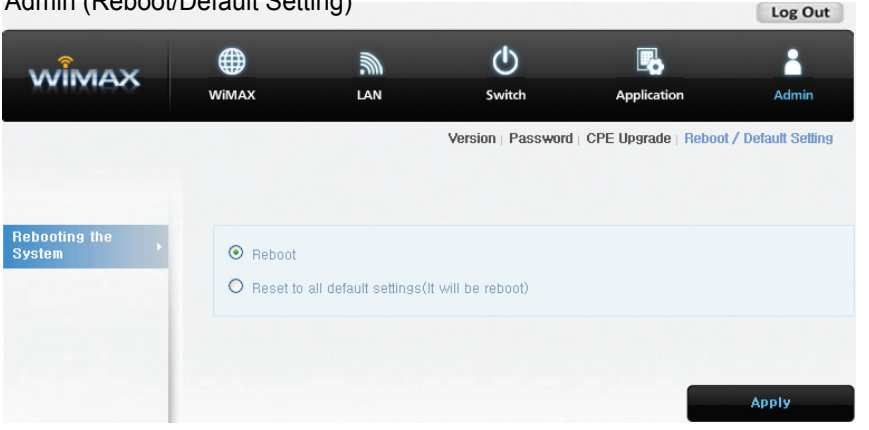


CPE Setup on the web page

- This will take several minutes, and time will vary according to the environment.
- In some case, a pop-up window asking to rebuild the system will be opened due to a version difference. If this occurs, click “Yes” to rebuild the system.
- CPE is rebooted automatically after the upgrade process is complete.

Caution To avoid failure of the CPE, do not power off the CPE during the upgrading process.

Admin (Reboot/Default Setting)



- Select “Admin” → “Reboot” from the menu.
- Select “Reboot” to reboot the CPE.
- Check “Reboot” checkbox to reboot the CPE and initialize CPE configuration.
- To reboot the CPE, click “Apply”.
- The CPE is rebooted automatically. This takes about 40 seconds.
- For making a factory default, select “Reset to all default settings(It will be reboot)”

Trouble Shooting

Actions to be taken when the Internet is disconnected

1. Check the status of external type modem.
Check that the Link lamps of cable, modem are illuminated.

2. Check the LED status of CPE.
- Check that the POWER LED is illuminated.
- Check if the LEDs of WiMAX are illuminated.
- For LAN port, check that the lamp of the port connected to the PC is illuminated.

3. Check the IP address of PC.
- For Windows 98/ME
  Click [Start] >> [Run] and enter the [winipcfg] command to open the [IP Address] window, and then check the [IP Address].
- For Windows 2000/XP
  Run [Command Prompt] and enter the [ipconfig] command to check the [IP address].

4. If IP Address is not normal – Set the IP Address of the PC manually.
- For Windows 98/ME
  1) Execute [Run >> Control Panel >> Network], and then click Properties of [TCP/IP] for LAN card.
  2) Check [Use the assigned IP address], enter [192.168.1.100] for [IP Address] and [255.255.255.0] for [Subnet Mask].
  3) Select [Gateway] and enter [192.168.1.1] for [New Gateway], and then click [Add].
  4) Select [DNS Configuration], check [Use DNS], enter any name for [Host], enter [DNS Server Address to search], and click [Add].
  5) Click [OK], click [OK] again in the [Network Properties] window, and then click [OK] from the [Change System Setup] window to reboot the PC.

Trouble Shooting

- For Windows 2000
  1) Execute [Start >> Control Panel >> Network and Dial-UP Connections], double-click [Local Area Connection], and click [Properties].
  2) Click Properties of [Internet Protocol (TCP/IP)] among Components.
  3) Click [Use the following IP address].
  4) Enter [192.168.1.100] for [IP Address], [255.255.255.0] for [Subnet Mask], and [192.168.1.1] for [Default Gateway].
  5) Click [Use the following DNS Server Address].
  6) For [Basic Setup DNS Server], enter the communication company server of each country.
  7) Click [OK]. Click [OK] again in the [Local Area Connection Properties] window.

- For Windows XP
  1) [Start >> Control Panel >> Network and Internet Connection], double-click [Local Area Connection], and click [Properties]. Click Properties of [Internet Protocol (TCP/IP)] among Components.
  2) Click [Use the following IP address].
  3) Enter [192.168.10.100] for [IP Address], [255.255.255.0] for [Subnet Mask], and [192.168.1.1] for [Default Gateway].
  4) Click [Use the following DNS Server Address].
  5) For [Basic Setup DNS Server], enter the communication company server of each country.
  6) Click [OK]. Click [OK] again in the [Local Area Connection Properties] window.

- For MAC OS X
  1) From the "Apple" menu, Choose "System Preference..“
  2) Click on the [Network] icon in the [Internet & Network] category.
  3) Click on the [Ethernet] option from the left hand side of the Network setting window.
  4) Select [Manually] option from the [Configure] drop-down menu.
  5) Enter [192.168.1.100] for [IP Address], [255.255.255.0] for [Subnet Mask], and [192.168.1.1] for [Router].
  6) For [DNS Server], enter the communication company server of each country.
  7) Click [Apply].

5. Run [MS-DOS] or [Command Prompt] and then perform PING Test with [192.168.1.1]

A message [Reply from 192.168.1.1: bytes=32 time=1ms TTL=64] should appear when running [ping 192.168.1.1] command. If the result of the Ping test does not arrive properly, please contact the Customer Support Center.

Operating Information

Temperature Range and power rating for the SWC-3x00

- Operating temperature for the units is 0℃ ~ 40℃

Power Rating AC for the SWC-3x00

- 110-240V ~ 50/60Hz 0.6A Max

Product Warranty and Customer Support

Product Warranty

Product Name : Gateway Modem
Model Name : SWC-3x00

This product comes with a one-year warranty, which is described in the following :

Contents of Warranty Rules

1. Equipment for Warranty : SWC-3x00
2. Warranty Period : 1 year
3. Free Repair Service or Replacement
   If a defect or failure of the product occurs within the warranty period.
4. Warranty does not cover the following.
   - If a defect or failure of the product occurs after the expiration of the warranty period.
   - If a defect or failure of the product occurs due to a natural disaster, such as fire, flood, and lightning.
   - If a defect or failure of the product occurs due to any unauthorized alteration or repair to the product.
   - If a defect or failure of the product occurs due to other actions of the consumer.

Warranty Information

Safety Precaution

Caution

When minor injury or product damage can
occur from violation of the following directions.

- Do not put any object on the product.
- Avoid heating devices.
- Never disassemble, repair or redesign the product.
- Be careful not to let any alien particle get inside the product.
- Do not leave the Product near a magnet or direct magnetic field.
- If you use the product at a location where static electricity is severe, it can cause malfuction to the product.
- Do not put any metallic object (coin, hair pin) or flammable object inside the product or drop the product.

WEEE Notice

The purpose of this Directive is, as a first priority, the prevention of WEEE, and in addition, to promote the reuse, recycling and other forms of recovery of such wastes so as to reduce disposal.

The WEEE logo on the product or on its box indicates that this product must not be disposed of or dumped with your other household waste.
You are liable to dispose of all your electronic or electrical waste equipment by relocating over to the specified collection point for recycling of such hazardous waste.

Warranty Information

Quality Warranty

1. This product is manufactured through strict quality control and inspection process.
2. In case of a problem in normal condition, the product will be repaired / replaced free of charge during the warranty period.
3. When requesting for repair, you must provide the warranty.
4. Keep the warranty in a safe location because it is not reissued.

Purchase date		
Quality warranty period	1(one) year	
Seller		
Telephone number		
Consumer	Name	
	Address	
	Telephone number	
	E-mail	

In the following cases, warranty conditions do not include.
- In case of issue due to inappropriate use.
- In case of issue after repair by uncertified service center.
- In case of issue after disassembling Product by consumer.
- In case of problem by natural disaster such as fire, earthquake etc.

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